

CLAIMS:

1. A dual band antenna device comprising a dielectric substrate having opposed first and second surfaces, a groundplane on the second surface, a microstrip transmission line on the first surface, a dielectric pellet mounted on the first surface on the microstrip transmission line, and a bifurcated planar inverted-L antenna (PILA) component mounted on the first surface, the PILA component having first and second arms which extend over and contact a surface of the dielectric pellet, the first arm contacting a different area of the surface of the dielectric pellet than the second arm, the PILA also being electrically connected to the groundplane.
2. A device as claimed in claim 1, wherein the dielectric pellet is made of a high permittivity ceramics material.
3. A device as claimed in claim 1 or 2, wherein the dielectric pellet is an elongate structure with a generally flat exposed surface facing away from the first surface of the dielectric substrate.
4. A device as claimed in claim 3, wherein the dielectric pellet is formed as a bridge structure with first and second feet that contact the microstrip transmission line.
5. A device as claimed in claim 3 or 4, wherein the bifurcated PILA is arranged substantially in line with the elongate dielectric pellet, and wherein the first arm of the PILA extends across and contacts substantially a full length of the exposed surface of the dielectric pellet, while the second arm of the PILA is shorter than the first arm and contacts a smaller part of the exposed surface of the dielectric pellet.
6. A device as claimed in any preceding claim, configured for operation in a first frequency band of 2.4 to 2.5GHz and a second frequency band of 4.9 to 5.9GHz.

7. A dual band antenna device comprising a dielectric substrate having opposed first and second surfaces, a groundplane on the second surface, a bifurcated planar inverted-L antenna (PILA) component mounted on the first surface and electrically connected to the groundplane, the PILA component having first and second
5 electrically connected arms, and a dielectric pellet having a surface connected to the first and second arms, wherein the dielectric substrate includes an aperture that is disposed beneath the dielectric pellet, wherein the pellet is connected to a coaxial feed line, and wherein the first arm of the PILA component contacts a different area of the surface of the dielectric pellet than the second arm, the PILA also being
10 electrically connected to the groundplane.

8. A dual band antenna device substantially as hereinbefore described with reference to or as shown in the accompanying drawings.